

Patent Claims

1. A drive apparatus for open-loop or closed-loop control of a safety-critical component having
 - a switching device which has a first switch (S1) and a second switch (S2), which is connected in series with the first, for switching the safety-critical component,
 - a first control device (C1) for reception of an input signal and emission of a first drive signal, and
 - a second control device (C2) for reception of the input signal and for emission of a second drive signal,characterized in that
 - the first switch (S1) in the switching device can be driven by the first control device (C1) and the second switch (S2) in the switching device can be driven by the second control device (C2).
2. The drive apparatus as claimed in claim 1, wherein the first and the second switch are in each case a relay or a contactor.
3. The drive apparatus as claimed in claim 1, wherein the first and the second switch are in each case a semiconductor switch.
4. The drive apparatus as claimed in claim 1, wherein the first and the second switch in each case comprise an optocoupler.
5. The drive apparatus as claimed in one of the preceding claims, wherein the first switch (S1) and the second switch (S2) can be driven with a time offset with respect to one another, and the first and the second control device operate on the master/slave principle.

6. An electrical machine having a load circuit and a drive apparatus as claimed in one of the preceding claims.

7. The electrical machine as claimed in claim 6, also having an emergency-off switch (X) for supplying the input signal.

8. A method for open-loop or closed-loop control of a safety-critical component by:

- provision of a switching device which has a first switch (S1) and a second switch (S2), which is connected in series with the first, for switching the safety-critical component,
- provision of a first control device (C1), which is connected to the switch (S1), and of a second control device (C2) which is connected to the second switch (S2),
- reception of an input signal,
- emission of a first drive signal from the first control device (C1) to the first switch (S1) in the switching device on the basis of the input signal, and
- emission of a second drive signal from the second control device (C2) to the second switch (S2) in the switching device on the basis of the input signal.

9. The method as claimed in claim 8, wherein the first and the second drive signal are emitted with a time offset with respect to one another.

10. The method as claimed in claim 9, wherein the first and the second drive signal are produced using a master/slave process as a function of the input signal, thus resulting in the defined time offset.

11. The method as claimed in claim 8, 9 or 10, wherein the switching device is used to switch a load circuit of an electrical machine.

12. The method as claimed in one of claims 8 to 11, wherein the input signal is produced by an emergency-off switch (X).